

Notice of Allowability

Application No.

10/782,302

Examiner

Henry S. Hu

Applicant(s)

YUAN ET AL.

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment of August 6, 2007.
2. ☒ The allowed claim(s) is/are 2-4 and 8.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 6-19-2007
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with **David L. Suter (registration # 30,692, tel: 248 641-1600) on September 10, 2007** to cancel all non-elected Claims 13-28 (Groups II, III and IV) as following:

Claim

Claims 13-28 please cancel Claims 13-28

DETAILED ACTION

2. This Office Action is in response to **three** things including: (A) **RCE Amendment** filed on August 6, 2007, (B) **IDS** (1 page with three US patents) filed on June 19, 2007 and (C) the above-mentioned Examiner's amendment. Claims 2-4, 8, 13 and 14 were amended; Claims 1,

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5-7, 9-12 and 29 as well as all non-elected Claims 13-28 (Groups II, III and IV) were cancelled, while no new claim was added.

To be more specific, originally independent Claim 1 was cancelled while its dependent Claims 8 and 13 were rewritten into independent form as alleged by Applicants on page 14 of Remarks. However, re-restriction requirement becomes necessary between newly setting **independent Claim 8 and Claim 13** since Claim 8 only comprises five components (a)-(e), while Claim 13 comprises seven components (a)-(g). The addition of PTFE particulate (e) and wax particulate (f) certainly makes Claim 13 distinct from Claim 8.

With such an amendment, Examiner withdraws specification objections and claim objections. The examiner also **accepts Figures 1-2 in two drawing sheets** filed by the Applicants on February 18, 2004 with a brief description of drawing on page 4. **Claims 2-4 and 8** with only one independent claim (Claim 8) are now pending. An action follows.

3. Claim rejections under **Non-Final** Office Action filed on May 4, 2007 are now removed for the reasons given in paragraphs 4-12 thereafter.

Allowable Subject Matter

4. **Claims 2-4 and 8** are allowed.

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5. The following is an examiner's statement of reasons for allowance: The above Claims **2-4 and 8** are allowed over the closest references:

6. The limitation of parent **Claim 8** of the present invention relates to a gasket admixture, comprising five components including:

(a) fluoroelastomer particulate derived from vinylidene-fluoride, hexafluoropropene, and tetrafluoroethylene, said fluoroelastomer having a Mooney viscosity from 25-75, fluorine from 65-69 atomic weight percent, at least 90 weight percent fluoroterpolymer, and halogenated crosslink sites;

(b) inert particulate from 10-50 parts per 100 parts by weight of said fluoroelastomer particulate, said inert particulate having particle sizes less than about 250 mesh;

(c) curing agent from about 0.5-20 parts per 100 parts by weight of said fluoro-elastomer particulate, wherein said curing agent crosslinks said fluoroelastomer particulate to generate cured fluoroelastomer and hydrogen ions; and

(d) magnesium oxide particulate from 5-50 parts per 100 parts by weight of said fluoroelastomer particulate, said metallic oxide reduction-agent particulate having particle sizes less than about 250 mesh, said magnesium oxide having a BET surface area from 40-70 square meters per gram.

(e) solvent sufficient to provide an admixture viscosity at 10,000-500,000 centipoises, said solvent comprising a blend of 3,5,5-trimethylcyclohexene-1-one (20 wt%), cyclohexenone (20 wt%), and a cellosolve acetate.

See other limitations of dependent **Claims 2-4**.

7. Applicants have now claimed in newly setting parent **Claim 8** an unexpected way of producing a gasket admixture comprising five components including: (a) fluoroelastomer particulate, (b) inert particulate, (c) curing agent, (d) magnesium oxide particulate and (e) solvent. It is found that **newly setting independent Claim 8 is a combination of three original Claims 1, 5 and 8**. All four components (a)-(d) are as specified in originally rejected independent Claim 1. The key point for newly setting independent **Claim 8** is that a mixed solvent consisting of three special solvents including **3,5,5-trimethylcyclohexene-1-one** (20 wt%), **cyclohexenone** (20 wt%), and **a cellosolve acetate** (from originally dependent Claim 8) is now used so as to provide a gasket admixture viscosity at 10,000-500,000 centipoises (from dependent Claim 5).

8. It is noted that in previous non-final office action, originally dependent **Claim 8** has been objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In a very close examination, each reference including **Hoover, Osen and Close** may have already used some common organic solvents in the course of making gasket admixture. However, the references in combination or alone cannot teach or suggest using such a specific solvent mixture to be with the combination of four components (a)-(d) in such a specified ratio. It is noted that different solvent, particularly when using such a specific solvent mixture which is

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made of three special solvents in such a specific ratio, certainly produce at least somewhat different final product.

9. In addition to be use as a solvent purpose, some physical and/or chemical interaction between solvent and components (a)-(d) may be existed in order to achieve the desired gasket admixture viscosity at 10,000-500,000 centipoises. See Applicants' example in paragraph 0047. Based on the fact that the involved solvents and/or solvent mixtures may be NOT functionally equivalent and interchangeable, one having ordinary skill in the art would NOT have found it obvious to modify reference's composition by replacing with or adding such a special solvent.

With respect to new IDS (1 page with three US patents including **US 6,349,945 B1 to Schmucker et al.**, **US 5,082,725 to Saito et al.**, and **US 6,517,084 B2 to Inamura**) filed on June 19, 2007, the Examiner confirms that **none teaches or suggests the claimed solvent(s) or its mixture.**

10. Therefore, none of the involving three references in combination or alone can teach or suggest the solvent limitation on component (e). The combination of prior art cannot achieve current limitations of parent Claim 8.

11. After further examination and search, the examiner found the following prior art did not teach the claimed limitation:

US 6,291,576 B1 to Schmiegel only discloses the preparation of crosslinkable fluoroelastomer composition comprising a fluoroelastomer, a curative for the fluoroelastomer, and a molecular sieve additive. Magnesium oxide may be added together (column 7, line 27). Such a composition may be used for making gasket (column 3, line 18). However, the claimed solvent mixture and the claimed terpolymer VDF/HFP/TFE with halogenated crosslink site are not disclosed or suggested at all. Therefore, Schmiegel fails to teach or fairly suggest the claimed gasket admixture.

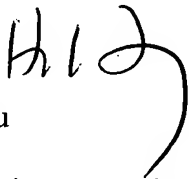
12. The limitation from two original Claims 8 and 5 by using a specific solvent mixture so as to provide a gasket admixture viscosity at 10,000-500,000 centipoises is missing for the prior art references in combination or alone, therefore, the present invention is novel.

13. As of the date of this office action, the examiner has not located or identified any reference that can be used singularly or in combination with another reference including the above references to render the present invention anticipated or obvious to one of the ordinary skill in the art. Therefore, the newly setting independent **Claim 8** is allowed for the reason listed above. Since the prior art of record fails to teach the present invention, the remaining pending dependent **Claims 2-4** are passed to issue.

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14. Any inquiry concerning this communication or earlier communication from the examiner should be directed to **Dr. Henry S. Hu** whose telephone number is **(571) 272-1103**. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (571) 272-1119. The fax number for the organization where this application or proceeding is assigned is (571) 273-8300 for all regular communications. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Henry S. Hu

Patent Examiner, art unit 1713, USPTO

October 10, 2007

/Peter D. Mulcahy/
Peter D. Mulcahy
Primary Examiner
Art Unit 1796